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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/708,658	11/09/2000	Nicholas Sheppard Bromer		3157

7590

05/22/2003

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EXAMINER

DRUAN, THOMAS J

ART UNIT

PAPER NUMBER

3724

DATE MAILED: 05/22/2003

19

Please find below and/or attached an Office communication concerning this application or proceeding.

EC

<b>Office Action Summary</b>	<b>Application N .</b> 09/708,658	<b>Applicant(s)</b> BROMER, NICHOLAS SHEPPARD	
	<b>Examin r</b> Thomas J. Druan, Jr.	<b>Art Unit</b> 3724	

-- The MAILING DATE of this communication appears on the cover sheet with the c rrespondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 April 2003 .
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_                      6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Request for Continued Examination***

1. The Request for Continued Examination (RCE) filed on 13 May 2002 under 35 CFR 1.114 is acceptable. An action on the RCE and amendment filed therewith follows.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### ***Claim Rejections - 35 USC § 103***

3. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 3,894,337 to Jones in view of the paper entitled *Subsurface Structure in Polished Fused Silica and Diamond Turned Single Crystal Silicon* by Carr et al. (hereinafter Carr).

Jones discloses the invention substantially as claimed including a blade comprising a substrate having a base of silica crystal finished by ion bombardment etching (column 3, lines 45-63) and a coating chromium over the silica (column 5, lines 7-25), the substrate being beveled towards a straight cutting edge (razor blade cutting edges are inherently straight in a cutting direction). A thin, hard plate of a polymer is deposited at the cutting edge (column 5, lines 1-6).

Jones does not disclose a surface roughness associated with an etched finished. Carr discloses a surface roughness of etched silica crystals to be 2.164 nanometers (0.002164  $\mu\text{m}$ ) at the surface (0 nm etch depth) (see last page of Carr), which falls well under the upper limit for specularity as defined in the Salmon reference. The thickness

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of the chromium is about 50-450 angstroms (column 5, lines 26-27), which is on the order of a light wavelength. Even if the thickness varied from the minimum thickness to the maximum thickness throughout the surface of the blade, the surface would still be specular as the variation is less than 500 angstroms, the surface roughness at which all light reflected from the surface would be scattered.

4. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jones in view of Carr in further view of Lane.

Jones in view of Carr discloses the invention substantially as claimed, but discloses chromium as a surface portion instead of glass. Lane teaches having a surface portion of glass (column 5, lines 55-65) in order to achieve an extremely sharp cutting edge (column 1, lines 15-22). Therefore, it would have been obvious to one skilled in the art at the time of the invention to use glass as a surface portion in order to achieve an extremely sharp cutting edge.

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jones in view of Carr in further view of Williams.

Jones in view of Carr discloses the invention substantially as claimed, but discloses a hard plate comprising a polymer instead of a ceramic. Williams teaches the use of applying a hard plate of a ceramic such as vanadium carbide (column 4, lines 1-6) in order to provide a major improvement in cutting performance (column 4, lines 28-31). Therefore, it would have been obvious to one skilled in the art at the time of the

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invention to replace the polymer of Jones with the ceramic of Williams in order to provide better cutting performance.

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jones in view of Carr in further view of US 3,652,342 to Fischbein et al. (hereinafter Fischbein).

Jones in view of Carr discloses the invention substantially as claimed, but does not disclose a thickness for the polymer layer. Fischbein discloses a typical thickness of polymer on a razor blade to be from 0.1-0.3 microns (column 1, lines 48-50). Therefore, it would have been obvious to one skilled in the art at the time of the invention to make the polymer layer thickness of Jones from 0.1-0.3 microns, which is on the order of a micron, in order to provide optimal shaving properties.

### ***Response to Arguments***

7. Applicant's arguments with respect to claims 1-6 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Suzuki is cited to further show the state of the art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas J. Druan, Jr. whose telephone number is 703-308-4200. The examiner can normally be reached on M-F (8:30-6:00) First Friday Off.


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Allan N. Shoap can be reached on 703-308-1082. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9302 for regular communications and 703-872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1148.

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tjd

May 19, 2003

  
BOYER ASHLEY  
PRIMARY EXAMINER